



MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 03/11/2013

Version 1.0

SECTION 1. Identification

Product identifier

Product number 803128
Product name Diethylene glycol monomethyl ether for synthesis

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Chemical for synthesis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,
United States of America | SDS Phone Support: +1-978-715-1335 |
General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to
4:00 PM Eastern Time (GMT-5)

e-mail: mm_sds@merckgroup.com

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Reproductive toxicity, Category 2, H361d

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Warning

Hazard Statements

H361d Suspected of damaging the unborn child.

Precautionary Statements

P281 Use personal protective equipment as required.

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number
Product name

803128
Diethylene glycol monomethyl ether for synthesis

Version 1.0

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	HOCH ₂ CH ₂ OCH ₂ CH ₂ OCH ₃	C ₅ H ₁₂ O ₃ (Hill)
CAS-No.	111-77-3	
Molar mass	120.15 g/mol	

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Diethylene glycol monomethyl ether (>= 90 % - <= 100 %)

111-77-3

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Subsequently administer: activated charcoal (20 - 40 g in 10% slurry). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath, narcosis, cardiovascular disorders, CNS disorders

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number
Product name

803128
Diethylene glycol monomethyl ether for synthesis

Version 1.0

Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number
Product name

803128
Diethylene glycol monomethyl ether for synthesis

Version 1.0

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	ether-like
Odor Threshold	No information available.
pH	4 - 7 at 200 g/l 68 °F (20 °C)
Melting point	-65 °C
Boiling point/boiling range	374 - 385 °F (190 - 196 °C) at 1,013 hPa
Flash point	196 °F (91 °C) Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.6 %(V)
Upper explosion limit	18.1 %(V)
Vapor pressure	ca. 0.3 hPa at 68 °F (20 °C)

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	803128	Version 1.0
Product name	Diethylene glycol monomethyl ether for synthesis	

Relative vapor density	4.14
Relative density	1.018 - 1.022 g/cm ³ at 68 °F (20 °C) DIN 51757
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: -0.68 (experimental) (IUCLID) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	3.9 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Ignition temperature	419 °F (215 °C) Method: DIN 51794

SECTION 10. Stability and reactivity

Reactivity

Forms explosive mixtures with air on intense heating.

Chemical stability

Reacts with air to form peroxides.

Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Aluminum, Light metals

Exothermic reaction with:

bases, Strong oxidizing agents, chlorosulfonic acid, fuming sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

calcium hypochlorite

Conditions to avoid

Strong heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Incompatible materials

Aluminum, rubber, various plastics, Copper, Light metals

Hazardous decomposition products

Peroxides

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

803128

Version 1.0

Product name

Diethylene glycol monomethyl ether for synthesis

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Inhalation, Eye contact, Skin contact

Acute oral toxicity

LD50 rat: ca. 6,500 mg/kg (IUCLID)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute dermal toxicity

LD50 rat: ca. 6,450 mg/kg
(IUCLID)

absorption

Skin irritation

rabbit

Result: No irritation
(IUCLID)

Eye irritation

rabbit

Result: No eye irritation
(IUCLID)

Sensitization

Human experience

Result: negative
(IUCLID)

Sensitization test: guinea pig

Result: negative

Method: OECD Test Guideline 406

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

CMR effects

Teratogenicity:

Suspected of damaging the unborn child.

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number
Product name

803128
Diethylene glycol monomethyl ether for synthesis

Version 1.0

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Systemic effects:

After absorption of large quantities:

CNS disorders, narcosis, cardiovascular disorders

Toxic effect on:

Liver, Kidney

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 7,500 mg/l; 96 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): > 500 mg/l; 48 h (IUCLID)

Toxicity to algae

IC50 *Desmodesmus subspicatus* (green algae): > 500 mg/l; 72 h (IUCLID)

Toxicity to bacteria

EC50 *Pseudomonas putida*: > 10,000 mg/l; 17 h (IUCLID)

Persistence and degradability

Biodegradability

100 %; 7 d

OECD Test Guideline 302B

Readily eliminated from water

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0.68

(experimental)

(IUCLID) Bioaccumulation is not expected (log Pow <1).

Mobility in soil

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

803128

Version 1.0

Product name

Diethylene glycol monomethyl ether for synthesis

No information available.

Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Combustible Liquid

Teratogen

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Fire Hazard

Chronic Health Hazard

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

Diethylene glycol monomethyl ether

111-77-3

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number
Product name

803128
Diethylene glycol monomethyl ether for synthesis

Version 1.0

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

Massachusetts Right To Know

Ingredients

Diethylene glycol monomethyl ether

Pennsylvania Right To Know

Ingredients

Diethylene glycol monomethyl ether

New Jersey Right To Know

Ingredients

Diethylene glycol monomethyl ether

Notification status

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H361d Suspected of damaging the unborn child.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Date of issue:03/11/2013

MATERIAL SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 803128
Product name Diethylene glycol monomethyl ether for synthesis

Version 1.0

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.